Amendments to the Claims/Listing of Claims

Please amend claims 13, 14, 17, 24, 25, 28, 31, 35, 37-39, 41 and 42, and cancel claims 20, 32 and 33 as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-12. (Cancelled).

13. (Currently amended) A transgenic mouse whose genome contains a transgene comprising a gene encoding a human steroid and xenobiotic receptor (SXR) polypeptide operably linked to an ~~inducible~~ **albumin** promoter/enhancer,

wherein said SXR polypeptide is a member of the steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said ~~SXR polypeptide~~ **heterodimer** binds to a direct or inverted repeat response element ~~based on the~~ **comprising at least two** half sites RGBNNM **separated by a spacer of 0 up to 15 nucleotides,**

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said -RGBNNM- sequence are identical with the nucleotides at corresponding positions of the sequence AGTTCA;

wherein said transgenic mouse expresses said SXR polypeptide, and

wherein said SXR polypeptide inducibly activates transcription in response to a wide variety of natural and synthetic steroid hormones, including at least compounds that induce catabolic enzymes, steroid receptor agonists and antagonists, and bioactive dietary compounds~~, and~~

~~wherein said transgenic mouse expresses said SXR polypeptide in at least one of the liver and intestine~~.

14. (Currently amended) A transgenic mouse according to claim 13, wherein, upon expression of said SXR polypeptide, ~~in at least one of the liver and intestine activates in the~~ said transgenic mouse ~~a response~~ responds to natural and synthetic steroid hormones to which a wild type mouse does not respond.

15. (Previously presented) A transgenic mouse according to claim 13, wherein said SXR polypeptide comprises an SXR ligand binding domain and a DNA binding domain obtained from a transcription activating factor.

16. (Previously presented) A transgenic mouse according to claim 13, wherein the ligand binding domain and DNA binding domain of said SXR polypeptide are obtained from SXR.

17. (Currently amended) A transgenic mouse according to claim 13, wherein said mouse ~~[[is]]~~ further comprises ~~transformed with~~ a ~~vector~~ nucleic acid sequence which comprises:

(a) a promoter that is operable in said mouse,

(b) a hormone response element, and

(c) DNA encoding a protein,

wherein said protein-encoding DNA is operatively linked to said promoter for transcription of said DNA, and

wherein said promoter is operatively linked to said hormone response element for activation thereof.

18. (Previously presented) A transgenic mouse according to claim 17, wherein said protein is a reporter.

19. (Previously presented) A transgenic mouse according to claim 17, wherein said protein is a mammalian cytochrome p450.

20. (Cancelled).

21. (Previously presented) A transgenic mouse according to claim 13, wherein the transgene further comprises nucleic acid sequence encoding VP16.

22. (Previously presented) Cells derived from a transgenic mouse according to claim 13.

23. (Previously presented) A transgenic knock-out mouse whose genome comprises a homozygous disruption in an endogenous SXR polypeptide gene, wherein said homozygous disruption prevents function of an endogenous SXR polypeptide and results in said transgenic knockout mouse exhibiting decreased response to steroids and xenobiotics as compared to a wild-type mouse.

24. (Currently amended) A transgenic mouse whose genome contains a transgene comprising a gene encoding a human steroid and xenobiotic receptor (SXR) polypeptide operably linked to ~~a constitutively active~~ **an albumin** promoter/enhancer **and the VP16 activation domain**,

wherein said SXR polypeptide is a member of the steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said ~~SXR polypeptide~~ **heterodimer** binds to a direct or inverted repeat response element ~~based on the~~ **comprising at least two** half sites RGBNNM **separated by a spacer of 0 up to 15 nucleotides**,

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said -RGBNNM- sequence are identical with the nucleotides at corresponding positions of the sequence AGTTCA;

wherein said transgenic mouse expresses said SXR polypeptide, and

wherein SXR polypeptide inducibly activates transcription in response to a wide variety of natural and synthetic steroid hormones, including at least compounds that induce catabolic enzymes, steroid receptor agonists and antagonists, and bioactive dietary compounds~~, and~~

~~wherein said transgenic mouse expresses said SXR polypeptide in at least one of the liver and intestine~~.

25. (Currently amended) A transgenic mouse according to claim 24, wherein ~~constitutive~~ expression of said SXR polypeptide results in growth retardation and hepatomegaly in said mouse.

26. (Previously presented) A transgenic mouse according to claim 24, wherein said SXR polypeptide comprises an SXR ligand binding domain and a DNA binding domain obtained from a transcription activating factor.

27. (Previously presented) A transgenic mouse according to claim 24, wherein the ligand binding domain and DNA binding domain of said SXR polypeptide are obtained from SXR.

28. (Currently amended) A transgenic mouse according to claim 24, wherein said mouse [[is]] further ~~transformed with~~ **comprises** a ~~vector~~ **nucleic acid sequence** which comprises:

(a) a promoter that is operable in said mouse,

(b) a hormone response element, and

(c) DNA encoding a protein,

wherein said protein-encoding DNA is operatively linked to said promoter for transcription of said DNA, and

wherein said promoter is operatively linked to said hormone response element for activation thereof.

29. (Previously presented) A transgenic mouse according to claim 28, wherein said protein is a reporter.

30. (Previously presented) A transgenic mouse according to claim 28, wherein said protein is a mammalian cytochrome p450.

31. (Currently amended) A transgenic mouse according to claim 28, wherein the response element in the reporter vector ~~is based on~~ comprises the half site RGBNNM,

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said -RGBNNM- sequence are identical with the nucleotides at corresponding positions of the sequence AGTTCA.

32.-33. (Cancelled).

34. (Previously presented) Cells derived from a transgenic mouse according to claim 24.

35. (Currently amended) A method for producing a transgenic mouse, said method comprising:

injecting a one-cell mouse zygote with a transgene comprising a gene encoding a human steroid and xenobiotic receptor (SXR) polypeptide operably linked to an inducible or a constitutively active **albumin** promoter/enhancer,

wherein said SXR polypeptide is a member of the steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said ~~SXR polypeptide~~ **heterodimer** binds to a direct or inverted repeat response element ~~based on the~~ **comprising at least two** half sites RGBNNM **separated by a spacer of 0 up to 15 nucleotides,**

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said -RGBNNM- sequence are identical with the nucleotides at corresponding positions of the sequence AGTTCA,

wherein said transgenic mouse expresses said SXR polypeptide, and

wherein said SXR polypeptide inducibly or constitutively activates transcription in response to a wide variety of natural and synthetic steroid hormones, including at least compounds that induce catabolic enzymes, steroid receptor agonists and antagonists, and bioactive dietary compounds, and

~~wherein said polypeptide is detectably expressed in at least one of the liver and the intestine, and ,~~

obtaining from the zygote a transgenic mouse that expresses said SXR polypeptide in the liver.

36. (Previously presented) A method according to claim 35, wherein expression of said SXR polypeptide activates in the transgenic mouse a response to natural and synthetic steroid hormones to which a wild type mouse does not respond.

37. (Currently amended) A method according to claim 35, wherein the promoter/enhancer is an inducible **albumin** promoter/enhancer.

38. (Currently amended) A method according to claim 35, wherein the **albumin** promoter/enhancer **[[is]]** **further comprises** a constitutively active **VP16** promoter/enhancer.

39. (Currently amended) A transgenic mouse whose genome contains a transgene comprising a gene encoding a human steroid xenobiotic receptor (SXR) polypeptide, or functional fragment of said polypeptide, operably linked to an ~~inducible tissue specific~~ **albumin** promoter/enhancer,

wherein said human SXR polypeptide is inducibly expressed in said transgenic mouse in a tissue-specific manner,

wherein said human SXR polypeptide is a member of the steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said heterodimer binds to a direct or inverted repeat response element comprising at least two half sites RGBNNM separated by a spacer of 0 up to 15 nucleotides,

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said RGBNNM sequence are identical with the nucleotides at corresponding positions of the sequence AGTTCA; and

wherein compounds selected from the group consisting of natural and synthetic steroid hormones including at least compounds that induce catabolic enzymes, steroid receptor agonists

and antagonists, and bioactive dietary compounds, interact with said human SXR polypeptide directly or indirectly to activate transcription of a gene under the control of a cytochrome P450 response element therefore.

40. (Previously presented) A transgenic knock-out mouse whose genome comprises a homozygous disruption in an endogenous mouse SXR polypeptide gene, wherein said homozygous disruption comprises insertion, deletion or point mutation of said mouse SXR polypeptide, wherein said disruption results in a decrease in transcription of a gene under the control of a cytochrome P450 response element mediated by said mouse SXR polypeptide in said transgenic knockout mouse as compared to a wild-type mouse.

41. (Currently amended) A method for producing a transgenic mouse, said method comprising:

injecting a one-cell mouse zygote with a transgene comprising a gene encoding a human steroid xenobiotic receptor (SXR) polypeptide, or functional fragment of said polypeptide, operably linked to an inducible or a constitutively active tissue-specific **albumin** promoter/enhancer,

wherein said human SXR polypeptide is inducibly or constitutively expressed in said transgenic mouse in a tissue-specific manner,

wherein said human SXR polypeptide is a member of steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said heterodimer binds to a direct or inverted repeat response element comprising at least two half sites RGBNNM separated by a spacer of 0 up to 15 nucleotides,

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said - RGBNNM - sequence are identical with nucleotides at corresponding positions of the sequence AGTTCA,

wherein compounds selected from the group consisting of natural and synthetic steroid hormones including at least compounds that induce catabolic enzymes, steroid receptor agonists and antagonists, and bioactive dietary compounds, interact with said human SXR polypeptide directly or indirectly to activate transcription of a gene under the control of a cytochrome P450 response element therefore, and

obtaining a transgenic mouse from said mouse zygote, wherein said transgene is incorporated into the genome of said transgenic mouse and wherein said transgenic mouse expresses said human SXR polypeptide.

42. (Currently amended) A transgenic mouse whose genome contains a transgene comprising a gene encoding a human steroid xenobiotic receptor (SXR) polypeptide, or functional fragments of said polypeptide, operably linked to ~~a constitutively active tissue-specific~~ **an albumin** promoter/enhancer **and the VP16 activation domain**,

wherein said human SXR polypeptide is constitutively expressed in said transgenic mouse in a tissue-specific manner,

wherein said human SXR polypeptide is a member of the steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said heterodimer binds to a direct or inverted repeat response element comprising at least two half sites RGBNNM separated by a spacer of 0 up to 15 nucleotides,

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said RGBNNM sequence are identical with the nucleotides at corresponding positions of the sequence AGTTCA; and

wherein compounds selected from the group consisting of natural and synthetic steroid hormones including at least compounds that induce catabolic enzymes, steroid receptor agonists and antagonists, and bioactive dietary compounds, interact with said human SXR polypeptide directly or indirectly to activate transcription of a gene under the control of a cytochrome P450 response element therefore.